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October Bee-collecting in Colorado (Hymenoptera : Apoidea).

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The season being unusually fine and warm, on October 1, 1933, we (Mr. and Mrs. Chas. Wagner, Mr. and Mrs. Cockerell) went to Hudson, Colorado, in search of bees. The locality is out on the plains, in Weld County, at an altitude of 5000 feet. We obtained a good series of bees, all at *Grindelia*, except a single *Dianthidium* on *Helianthus petiolaris*. The collection is sufficiently interesting to be worth recording.

APIS MELLIFERA CARNICA Pollm., one.

APIS MELLIFERA LIGUSTICA Spin., common.

MEGACHILE BREVIS Say, one female, no pollen collected.

DIANTHIDIUM SAYI Ckll., both sexes.

EPEOLUS PUSILLUS Cresson. One female, with axillae red at end. Either this species is very variable, or as now accepted, it includes more than one thing. I have not sufficient material to reach a definite decision.

AGAPOSTEMON ANGELICUS Ckll. Described from Angel de la Guarda Island, Lower California, but it proves to be widespread in the west. I recently found it nesting on the outskirts of a colony of *Diadasia australis* Cresson, near Denver. Two males were taken at Hudson.

HALICTUS PARALLELUS Say. One female, a variety with black femora. This species is common in Kansas, but rarely taken in Colorado.

HALICTUS LIGATUS Say (*ARMATICEPS* Cresson). Two males.

Halictus (Evylaeus) grindeliae sp. n.

♀. Length about 6 mm., anterior wing 4.7; pure black, including legs and antennae, the last three joints of flagellum obscurely brownish below; hair of head and thorax scanty, greyish white; head broad but rather elongate, the orbits converging below; clypeus with lower half highly polished, with a strong median depression, upper half dull; supraclypeal area shining; sides of face with thin dull white hair; vertex shining;

mesothorax bare and highly polished, with excessively fine punctures; region of tubercles very hairy; scutellum shining, not depressed in middle; postscutellum not covered with tomentum; area of metathorax large, dullish, with a narrow shining margin; the microscope shows the area to be covered with very irregular, not dense, wrinkles, which reach the margin, while the apical margin is broadly truncate (not angulate as in *H. pectoraloides*); rim of posterior truncation of metathorax failing above; tegulae rather large, elongate, shining black, not punctured, except for a few weak piliferous punctures in front; wings clear hyaline, iridescent; stigma large, dark reddish brown; nervures light brown, outer ones evanescent as usual in the subgenus; first recurrent nervure meeting intercubitus; legs with greyish-white hair; spurs light red, hind spur with about five strong spines; abdomen broad, highly polished, the margins of the tergites not at all pallid; first tergite not evidently punctured; no hair-spots on first tergite; second and third with elongated patches of white tomentum at each side of base; apex with thin white hair. Under the microscope the mesothorax and scutellum show scattered punctures of different sizes. There is no deep median groove in mesothorax, such as exists in *H. macoupinensis* Rob., to the vicinity of which it runs in Crawford's table. It is more like *H. divergens* Lovell in the shape of head (but head is broader than in *divergens*), but that differs at once in the area of metathorax, which has the very delicate plicae confined to the basal part except at sides. *H. pectoraloides* Ckll. is a very similar species, but with a much lighter stigma, and different metathorax. The area of metathorax is quite different from that of *H. glabriventris* Crawford.

Type. From Hudson, COLORADO, October 1, 1933. In the author's collection.

XENOGLOSSODES EXCURRENS Ckll. One female; eyes in life blue-grey.

Melissodes octobris sp. n.

♀. Length about 10.5 mm., anterior wing 8.2; black, with pale, faintly tawny hair, sooty or black at end of abdomen, and black on inner side of hind tarsi, but white on inner side of hind tibiae; flagellum red beneath except basally, the ends of the joints dusky; tegulae very dark brown, with light hair; wings hyaline, suffused with reddish; eyes pure black, but drying to pale grey. This is a species with a very broad short head and very wide face, like *M. pallidicincta* Ckll., of which I should consider it a

variety, but for the fact that the first tergite (except the depressed apical portion) is very distinctly though finely punctured, as seen under a lens, and is also moderately shining, whereas in *M. pallidicincta* (and also its var. *erythrina* Ckll.) this part is dull and not distinctly punctured. The clypeus is dull and very densely punctured all over, not shining in middle as in *pallidicincta*. The punctures are dense and more regular than in *erythrina*, but it agrees with that form in having a distinct though delicate median raised line. Sides of face rather dull, very hairy; supraclypeal area smooth and shining; each side of vertex with a broad shining basin; no dark hairs on head or thorax above; disc of mesothorax posteriorly polished and sparsely but strongly punctured; scutellum shining, but more punctured than in *erythrina*; posterior truncation of metathorax dull, but with a pair of shining foveae at lower end (in *erythrina* represented by narrow shining bands, and about the same in *pallidicincta*); venation as in *pallidicincta*; scopa of hind legs very large, full of the bright orange *Grindelia* pollen (the type of *erythrina* has collected red pollen); abdomen broad, hind margins of tergites brownish; declivity of first tergite with white hair; bands at base and middle of second tergite, and middle of third and fourth; depression of second tergite broader (antero-posteriorly) than the raised part above. The rather broad whitish margin of first tergite of *pallidicincta* (and *erythrina*) is replaced by a mere line. The abdominal bands appear to be feebly developed, but they would doubtless appear stronger in a freshly-emerged specimen, though surely not as in *pallidicincta*. The hair of sides and under parts of thorax is all light. In Robertson's (1905) table this runs out at 16. It is easily distinguished from the superficially similar *M. confusiformis incondita* Ckll. by the reddish wings, highly polished disc of mesothorax and distinctly punctured first tergite. From *M. glenwoodensis* Ckll. it is known by the shape of head, light hair on inner side of hind tibiae, and other characters. In my table of 1906 (Trans. Am. Ent. Soc.) it runs to group K, and under this to 6.

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Also at Hudson, we took the coccid *Amonostherium lichtenoides* (Ckll.) on *Artemisia*; and galls of *Aylax pisum* Walsh on *Lygodesmia juncea*. An asilid fly taken has been determined by Mr. M. James as *Erax bicaudatus* Hine.